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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,284	06/27/2001	Kyoung Sub Kim	8733.438.00	1850
30827 7590 03/13/2007 MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			EXAMINER WARREN, MATTHEW E	
			ART UNIT	PAPER NUMBER
			2815	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/13/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/891,284	KIM ET AL.	
	Examiner	Art Unit	
	Matthew E. Warren	2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on: 18 January 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration:
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This Office Action is in response to the RCE and Amendment filed on January 18, 2007.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The independent claims 1 and 3 recite the limitation of "a resin filled in a cavity formed in the holder and having the soldering and the wire and wherein the resin surrounds only part of the wire." This limitation is supported by the specification, but the support occurs in two separate embodiments. For instance, the embodiment described with respect to figure 9 pertains to the a resin filled in a cavity formed in the holder having the soldering and the wire, but the resin surrounds all of the wire. The embodiment described with respect to figure 11 pertains to the resin surrounding only part of the wire, but there is no cavity formed in the holder and there is no description of soldering. It appears that the claim describes a combination of the first and second

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embodiments, but the specification does not disclose that such a combination is possible. For these reasons, the limitation of the resin surrounding only part of the wire will be ignored until the language of the claims properly distinguishes between the two embodiments described in the spec. Claims 1 and 3 will be interpreted with respect to the first embodiment (fig. 9).

The independent claims 5, 8, and 10 each recite limitations of "a resin provided at an end of the lamp housing in such a manner to enclose the wire at the end of the lamp housing where the resin reinforces soldering such that the soldering resists external forces, wherein the resin separates the wire from the lamp housing at a second portion of the lamp housing and wherein the resin surrounds only part of the wire. This limitation is supported by the specification, but the support occurs in two separate embodiments. For instance, the embodiment described with respect to figure 9 pertains to the a resin filled in a cavity formed in the holder having the soldering, the wire, and reinforcement of solder, but the resin surrounds all of the wire. The embodiment described with respect to figure 11 pertains to the resin surrounding only part of the wire, but there is no cavity formed in the holder and there is no description of soldering. In the second embodiment (fig. 11) the resin keeps the end of the lamp housing and the wire at a desired height and prevents the end of the lamp housing from being in direct contact with the wire, thereby preventing a short and breakage of the wire (applicant's spec., pg. 11, lines 5-13). It appears that the claim describes a combination of the first and second embodiments, but the specification does not disclose that such a combination is possible. For these reasons, the limitation of the resin surrounding only

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part of the wire will be ignored until the language of the claims properly distinguishes between the two embodiments described in the spec. Claims 5, 8, and 10 will be interpreted with respect to the first embodiment (fig. 9).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 8-12, as far as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over the Applicant's Prior Art Figure 3 (APAF) in view of Suzuki et al. (US 5,637,007).

In re independent claims 1 and 3, the APAF (fig. 3) shows a lamp apparatus for a liquid crystal display comprising a lamp (2) for generating light, a wire (3) for supplying external electric power to the lamp, a soldering (4) for connecting the lamp to the wire, a holder (5) for enclosing the soldering, and a lamp housing (1) for enclosing the holder and the lamp. The APAF shows all of the elements of the claims except the resin in the holder between the soldering and the holder. Suzuki et al. shows (fig. 1) a connector structure in which a housing (2) including wires (3) are connected to a terminal (4) by solder (col. 3, lines 62-67). A resin (10) fills a cavity (5) to provide a seal and fix the wires to their terminals (col. 4, lines 18-28). If the resin of Suzuki et al. is applied to the holder of the APAF, then the solder of the combined invention would inherently resist

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external forces as the applicant's claimed invention does because the same materials and structure are used. Furthermore, when the resin of Suzuki et al. is applied to lamp apparatus of the APAF, then the resin will be between both the soldering and the holder and the wire and the holder. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the lamp housing of the APAF 3 by inserting resin into the holder portion and enclose the wire at the end of the housing as taught by Suzuki to seal the cavity and fix wires to their terminals.

In re claim 4, the APAF 1 shows the lamp apparatus is installed at each side of the liquid crystal display case.

In re independent claims 5, 8, and 10, the APAF (figs. 3 and 4) shows a lamp apparatus for a liquid crystal display comprising a lamp (2) for generating light, a wire (3) for supplying external electric power to the lamp, and a lamp housing (1) for enclosing the lamp and the wire, wherein a first portion of the wire contacts a first portion of the lamp housing. The apparatus also includes a second portion of the lamp housing (the holder 5 having a cavity enclosing the wire and solder) in which the wire does not make contact. The APAF shows all of the elements of the claims except the resin provided at an end of the lamp housing in such a manner to enclose the wire at the end of the lamp housing, wherein the resin separates the wire from the lamp housing at a second portion of the lamp housing. Suzuki et al. shows (fig. 1) a connector structure in which a housing (2) including wires (3) are connected to a terminal (4) by solder (col. 3, lines 62-67). A resin (10) fills a cavity (5) to provide a seal

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and fix the wires to their terminals (col. 4, lines 18-28). If the resin of Suzuki et al. is applied to the holder of the APAF, then the solder of the combined invention would inherently resist external forces as the applicant's claimed invention does because the same materials and structure are used. Furthermore, when the resin of Suzuki et al. is applied to lamp apparatus of the APAF, then the resin will be between both the soldering and the holder and the wire and the holder. The holder of the APAF is the second portion of the lamp housing in this case and when the resin of Suzuki fills the cavity of the holder, then it separates the wire from the housing. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the lamp housing of the APAF 3 by inserting resin into the holder portion and enclose the wire at the end of the housing as taught by Suzuki to seal the cavity and fix wires to their terminals.

In re claims 6, 11, and 12, the APAF 3 shows a soldering (4) electrically connecting the lamp to the wire and a holder (5) passing through the lamp housing to enclose the lamp, wire and the soldering.

In re claim 9, the APAF 1 shows the lamp apparatus is installed at each side of the liquid crystal display case.

Claims 2, 7, and 13, as far as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Prior Art Figure 3 (APAF) in view of Suzuki et al. (US 5,637,007) as applied to claims 1, 5, and 10 above, and further in view of Saito (JP 4-46314).

In re claims, 2, 7, and 13, the APAF in view of Suzuki et al. shows all of the elements of the claims except the specific material of the resin. Saito discloses (abstract and fig. 4) an LCD element having a resin material of epoxy (12) at an end of device to form a reliable seal without bubbles or moisture. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the resin of the APAF and Suzuki by using specific resins such as epoxy as taught by Saito to form a reliable seal.

### ***Response to Arguments***

Applicant's arguments filed with respect to claims 1-13 have been fully considered but they are not persuasive. The applicant primarily asserts that Suzuki cannot be applied to cure the deficiencies the Applicant's Prior Art Figure 3 (APAF) because Suzuki is not analogous art and does not provide proper motivation. The examiner believes that Suzuki is an analogous reference and can therefore be combined with the APAF. Although Suzuki pertains to a connector device for a hydraulic circuit mounted within a housing and not a lamp apparatus for an LCD, Suzuki is analogous because it deals with securing electrical connectors in a housing. The applicant's invention pertains to securing and protecting the electrical connection of the lamp apparatus in the housing of an LCD. Although the overall devices of the hydraulic circuit and LCD lamp apparatus differ, the housings and more importantly the electrical connectors within those housings contain the same structures; wires and solder. If one were looking to somehow improve and protect the electrical connection in a housing,



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one would look to Suzuki and find that resin seals the connection and protects it from outside substances. The applicant amends the claims by stating that the resin reinforces the soldering such that soldering resists external forces. Such a limitation is not distinguishable over the cited art because that limitation merely recites a property or function of the resin within the solder housing. Certainly, any device having a resin within a housing and surrounding a solder connection would inherently perform the same function. Certainly, Suzuki's solder performs the same function within the housing for the hydraulic circuit because the materials and structure are the same. However, Suzuki additionally states in column 4, lines 21-27 that the sealer..."also serves to fix the wires 3 and the terminals 4, and further seals the front end portions of the wires 3..." This statement essentially states that resin reinforces the solder because it fixes the wires 3 and terminals 4 (aka solder in col. 3, lines 62-67). Suzuki further lists additional benefits of the resin by stating that it prevents diffusion of oil into the wire and solder connection.

The applicant further attacks the motivation for combining Suzuki by stating that the resin of Suzuki prevents the diffusion of oil into a wire instead of protecting the connection from an external force. Again, Suzuki additionally states in column 4, lines 21-27 that the sealer..."also serves to fix the wires 3 and the terminals 4, and further seals the front end portions of the wires 3..." Although this portion of the motivation for using the resin/sealer of Suzuki differs from the applicant's teaching, Suzuki still teaches that the resin also fixes the connections, thus reinforcing. The applicant cannot continuously attack Suzuki's motivation because of the additional benefits of preventing

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diffusion of oil into the wire connection. Furthermore, the applicant has merely discovered an additional benefit of using resin in an electrical connection (which Suzuki also discloses) and such discovery does not preclude Suzuki's teachings from being proper motivation. For these reasons, the examiner believes that the APAF and Suzuki show all of the elements of the claims and the rejection is proper.

Applicant's additional arguments filed with respect to claims 1-4 have been fully considered but they are not persuasive. The applicant primarily asserts that the prior art references do not show all of the elements of the claims, specifically that the Applicant's Prior Art Figures (or ARA) and Suzuki do not show that a resin is "filled in a cavity formed in the holder having the soldering and the wire." The examiner believes that the prior art references show all of the elements of the claims. As stated in the rejection above, the ARA figure 3 already shows that the holder has a cavity that contains the soldering and the wire. When the resin of Suzuki is combined with the ARA, the resin fills the cavity having the solder and wire of the lamp apparatus just as the resin fills the cavity of Suzuki that contains wires and connecting terminals (solder). Furthermore, Suzuki alone shows the limitation in question. Suzuki's figure 1 shows that housing (7) has a cavity (5) containing wires (3) and solder (not shown but disclosed in col. 3, lines 62-67). Therefore, the resin (10) is filled in the cavity formed in the holder having the soldering and the wire.

Applicant's arguments with respect to the added limitations to the claims have been considered but are moot in view of the new ground(s) of rejection. See the 35 USC 112 First Paragraph rejection above.

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Applicant's additional arguments filed with respect to amended claims 5-13 have been fully considered but they are not persuasive. The applicant primarily asserts that the prior art references do not show all of the elements of the claims, specifically that the Applicant's Prior Art Figures (or ARA) and Suzuki do not show the added limitation of the resin separating the wire from the lamp housing at a second portion of the lamp housing. As stated in the rejection above, the holder is considered a second portion of the lamp housing. Since the claims were amended to delete limitations pertaining to the cavity in the holder, the holder of the APAF now becomes the second portion of the housing. As shown in the APAF 3 and 4, the wire in the holder portion (second portion of the housing) is already spaced from the lamp housing. When the resin of Suzuki fills the cavity of the holder, the resin separates the wire from the second portion of the lamp housing. The applicant intended to further define the claims with the present amendment but in fact have made the claims more broad. Thus, the prior art references, when combined, show all of the elements of the claims. The 35 USC 103 rejection above is still proper and shall remain.

### ***Conclusion***

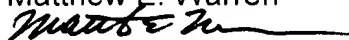
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew E. Warren whose telephone number is (571) 272-1737. The examiner can normally be reached on Mon-Thur and alternating Fri 9:00-5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew E. Warren



March 5, 2007